

Claims 35-48 and 50-53 are pending in the present application. Method claims 49 and 54, however, have been withdrawn from consideration and canceled without prejudice.

Allowable Subject Matter

Applicant acknowledges the Examiner's indication of allowable subject matter with respect to the claims 35 and 41 and 44. Applicant also acknowledges the apparent allowance of claims 45 and 46, as indicated on pages 5-6 of the Office Action.

Claim Rejections Under 35 U.S.C. § 112

Applicant however respectfully disagrees with the Examiner's rejections of claim 37 under 35 U.S.C. § 112, first and second paragraph. With respect to 35 U.S.C. § 112, ¶ 1, the Examiner argues that "the at least one non-magnetic wedge," which is actually recited in allowed claim 46, is not described in the Specification "in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention." With respect to 35 U.S.C. § 112, ¶ 2, the Examiner argues that the claimed subject matter is not sufficiently enabled. Applicant respectfully disagrees.

As indicated above with respect to the drawings, claim 46 (and not claim 37 as argued by the Examiner) sets forth "the at least one non-magnetic wedge" feature questioned by the Examiner. Figure 2 clearly shows "wedge-like" pole pieces 24 disposed within the pole segments 4. The pole pieces 24 are also described for example in the Specification at page 3, lines 14-15, and page 8, lines 1-3. Poles pieces 24 are in fact described as "non-magnetic wedges" in original claim 5.

As such, applicant respectfully submits that both claims

37 and 46, whichever claim the Examiner is actually referring to, are in full compliance with the requirements of 35 U.S.C. § 112, paragraphs 1 and 2.

Rejection of Claims 36-39 Under 35 U.S.C. §§ 102 & 103

Applicant also respectfully disagrees with the Examiner's rejection of claims 36-39 under 35 U.S.C. Sections 102(b) and 103(a). The rejected claims depend from claim 35 and thus must be construed, and therefore allowed, in accordance with 37 CFR 1.75(c):

One or more claims may be presented in dependent form, referring back to and further limiting another claim or claims in the same application. . . . Claims in dependent form shall be construed to include all limitations of the claim incorporated by reference into the dependent claim.

As such, applicant respectfully submit that claims 36-39 must be allowed along with allowed claim 35, i.e., the allowed claim from which they depend. Claims 36-39 are not anticipated or rendered obvious over the cited art, and are thus allowable along with independent claim 35.

Rejection of Claims 47 & 48 Under 35 U.S.C. §§ 103(a)

The Examiner has also rejected Claims 47 and 48 as being obvious over U.S. Patent No. 3,219,861 to Burr or U.S. Patent No. 5,128,575 to Heidelberg et al. in view of U.S. Patent No. 4,242,610 to McCarty et al. Applicant respectfully disagrees and submits that the claimed invention is not rendered obvious by the proposed combinations of references urged by the Examiner.

The present invention as set forth in claims 47 and 48 relates to novel structures for a multi-pole rotor of an electric machine. The multi-pole rotor includes ferromagnetic pole segments each extending in a radial direction from an

inner surface of the rotor to an outer surface of the rotor, and slots separating each of the ferromagnetic pole segments, each of the slots extending radially from the inner surface of the rotor to the outer surface of the rotor, each of the slots having a radial slot height defined along a direction from the inner surface of the rotor to the outer surface of the rotor. In accordance with the preferred embodiment of claim 47, the rotor further includes a magnet structure constructed and arranged within each of said slots, said magnet structure having a squirrel cage portion disposed along the outer surface of the rotor and a permanent magnet having a rectangular cross-section extending from the squirrel cage portion to the inner surface of the rotor. In accordance with the preferred embodiment of claim 48, the magnet structure varies in width from the squirrel cage portion to the inner surface of the rotor.

None of the combinations urged by the Examiner teach or suggest the claimed structures. Neither primary reference for example teaches or suggests a magnet structure disposed within each of the wherein the magnet structure includes a squirrel cage portion disposed along the outer surface of the rotor and a permanent magnet has a rectangular cross-section extending from the squirrel cage portion to the inner surface of the rotor.

Although McCarty et al. show a squirrel cage configuration, the reference in fact teaches away from the claimed invention by requiring the squirrel cage to be disposed within each of the ferromagnetic support members 14 and not the magnetic structure 22. (U.S. Patent No. 4,242,610 at Figure 2; Col. 3, lines 16-31.) By contrast, claims 47 and 48 require the squirrel cage to be disposed as part of the magnet structure.

Applicant respectfully submits that pending claims 47 and 48 are allowable over the combination of the Burr, Heidelberg

et al. and McCarty et al. references urged by the Examiner. Neither of the primary references, whether taken singly or in combination, teach or even suggest the structure of the claimed multi-pole rotor.

The above-identified application is believed to be in condition for allowance in all respects, and such allowance is courteously solicited. If any further amendment is necessary to advance prosecution and place this case in allowable condition, the Examiner is courteously requested to contact the undersigned by fax or telephone at the number listed below.

Please charge any cost incurred in the filing of this Amendment, along with any other costs, to Deposit Account 06-1510. If there are insufficient funds in this account, please charge the fees to Deposit Account No. 06-1505.

Respectfully submitted,


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Enclosures

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